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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/292,132 | 04/14/1999 | SALMAN AKRAM | MI22-1171 | 3104 |
| 21567 | 7590 | 12/15/2005 | EXAMINER | |
| WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201 | | | MULPURI, SAVITRI | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2812 | |

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/292,132

Applicant(s)

AKRAM ET AL.

Examiner

Savitri Mulpuri

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/16/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-75, 80, 81, 87, 88, 90 and 93-103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 62--75, 80-81, 87, 93-98 is/are allowed.
- 6) ☒ Claim(s) 88, 90 and 99-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the applicant communication filed on 4/4/4005

Claims 88, 90, 99-103 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. After further review of the specification, it is noted that there is no support for "providing fluorine within the gate oxide before forming gate". In specification in page last paragraph, only chlorine can be provided before or after formation of gate (Fig.1), but not providing fluorine before forming gate. Fig.1 shows first embodiment, and Fig. 2 and 3 shows second embodiment. None of the embodiments show providing fluorine into gate oxide and then forming gate and then forming at least one spacer comprises fluorine for providing.

None of the disclosed embodiments teach the combinational step of "providing fluorine with in gate first and then again forming side wall spacers laterally adjacent to the gate, wherein the spacers comprises fluorine for providing".

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lu (5,683,946) teaches fluorinated gate oxide and then forming gate. Yamazaki et al (6,586,346) teaches forming gate oxide in fluorinated atmosphere and then forming gate.

Applicant's arguments filed 9/16/2005 have been fully considered but they are not persuasive. Applicant argues that there is support for the limitation of "providing fluorine with in the gate oxide layer and forming a gate proximate the gate oxide layer having the fluorine therein after providing" and applicant point out page 12, lines 19-21 for support. However, instant disclosure, at page 12, lines 19-21 covers as follows "the above embodiments preferably place doped chlorine or fluorine proximate both gate edges 26 and 28 with in the respective gate oxide layers" and such disclosure is limited to only at the edges 26 and 28. However, applicant must refer the previous paragraph, page 12, lines 14-15, that central region between edges being substantially void of fluorine and chlorine. If fluorine is all ready supplied in the gate oxide before forming gate, how can the central region between edges can be void of fluorine. Applicant must realize the difference of first embodiment, fig.1, where chlorine is present throughout gate oxide, where as other embodiments fig. 2-10 the central region between edges is void of chlorine or fluorine.

Applicant respectfully requested to refer disclosure of the first embodiment, fig.1 , at page 6-23, which is exclusively limited to providing chlorine before forming gate but not fluorine before forming gate.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Savitri Mulpuri whose telephone number is 571-272-1677. The examiner can normally be reached on Mon-Fri from 8 a.m. to 4.30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt, can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Savitri Mulpuri', with a stylized, flowing script.

Savitri Mulpuri
Primary Examiner
Art Unit 2812